

THE WILSON BULLETIN

A QUARTERLY MAGAZINE OF ORNITHOLOGY

Published by the Wilson Ornithological Club

Vol. 56

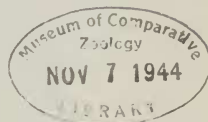
SEPTEMBER, 1944

No. 3

NOTES ON A COWBIRD PARASITIZING A SONG SPARROW

13,814

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THE parasitic habit of the Cowbirds (*Molothrus ater*) has been known since the earliest ornithologists began studying the avifauna of the western hemisphere, and much has been written concerning these birds and their hosts. Very little, however, has been recorded of their laying habits, and the published observations of egg removal and egg laying by the Cowbird are few and scattered. They are summarized in the following paper, with my own observations, made in May, 1944.

Friedmann (1929:185) saw a Cowbird go to a Robin's nest and deposit an egg just after he had examined the nest (at about 7:30 A.M.). Until 1937 this was the only record of anyone observing a nest both before and after a Cowbird had laid her egg. Then Hann (1937:201; 1941:215) observed the actual egg-laying on five occasions (each time at dawn). In two instances he obtained photographs of a Cowbird in an Oven-bird's nest.

Friedmann (1929:186) found no conclusive evidence that the Cowbird usually punctures or removes eggs of the host when depositing one of its own, but a few people have since observed this phenomenon, and some have seen the Cowbird eat the stolen egg. Roberts (1932:325) obtained a photograph of a female Cowbird taking an egg from the nest of a Scarlet Tanager, and also observed a Cowbird taking a Chipping Sparrow's egg from the nest. Blincoe (1935:158) saw a female Cowbird remove a Robin's egg from the nest (at about 5:30 P.M.). Nice (1937:157) observed a Cowbird taking a Song Sparrow's egg on two occasions (at 9:15 A.M. and 8:45 A.M., respectively). In the first instance the Cowbird ate both shell and contents; in the second, the bird flew away with the egg. Hann (1937:203) recorded three observations of a Cowbird taking an egg from the nest of an Oven-bird. The first occurred at 9:01 A.M., and the bird flew away with the egg. In the second instance, the bird ate contents and shell. In the third instance Hann (1941:Figure 1) obtained a fine photograph of the Cowbird removing the egg (at 9:10 A.M.).

Hann (1941:220) stated that the Cowbird usually removes an egg of the host during the forenoon of the day previous to its own laying, sometimes during the day of laying, rarely on the following day. Olson (1943:195), however, reported a Cowbird carrying away and eating a small egg, resembling that of a Song Sparrow, at 5:15 P.M., and there is in addition Blincoe's observation (cited above) of egg removal at 5:30 P.M. My own observations, which follow, agree with Hann's findings.

On May 28, 1944, I was working at my home in the village of Meridian about four miles west of Butler, Pennsylvania. Along the edge of the yard there is a strip of uncultivated land some 10 feet wide on which there is a rank growth of grass about 18 inches high and a few briars, forming excellent cover for ground-nesting songbirds.

At 9:45 A.M. (E.S.T.) I noticed a female Cowbird flying from this strip of grass with a small white object, apparently an egg, in her mouth. She flew away at an angle and alighted in a neighbor's garden 30 feet from the point where I had first observed her. She did not put the egg down immediately, and when I got a little closer she flew 70 feet farther off and again alighted. During the flight I could see that she was holding the egg with partly open beak, each mandible piercing the eggshell. This time I was careful not to approach too closely. She placed the egg upon the ground and began to break the shell with her bill. After maneuvering around the egg for some time and occasionally picking something up, she flew away. I went to the spot immediately, and all that remained of the egg was the moist spot where some of the contents had spilled onto the ground. I found no trace of the shell.

Shortly after this happened, I returned to the spot where I had first observed the Cowbird flying with the egg and began to search for the nest. I discovered a nest of the Song Sparrow (*Melospiza melodia*) built in the base of some grasses. It contained but one egg.

I anxiously awaited the coming of dawn on May 29, for Hann (1941:213) stated that the Cowbird lays very early in the morning, and I wanted to record the egg-laying procedure. At 3:00 A.M., Hal H. Harrison, President of the Audubon Society of Western Pennsylvania, and an expert photographer of birds, whom I had asked to assist me, arrived at my home and immediately began to set up his equipment. He removed enough grass from around the nest to enable him to see the bird when she arrived, and placed his camera on a tripod 24 inches from the nest, running a wire from the battery case of the photoflash equipment into the blind (placed about six feet from the nest) to a supplementary battery used to take the picture. The camera was loaded with a sheet of professional kodachrome film, and Harrison and I retired to the blind at 3:30 A.M.

It was quiet near the nest, but many Robins were singing all around, and shortly after 4:00 A.M., a Song Sparrow sang nearby. Just before 4:30 A.M., about 22 minutes before sunrise, we heard the sputtering

note of a Cowbird, and a few seconds later a female Cowbird alighted on the camera. After looking around cautiously, she flew to the ground at the base of the tripod and began to walk nervously toward the nest. As she reached the rim of the nest, she paused and carefully surveyed the surrounding territory, then stepped into the nest, and turned about several times. Finally she settled down, and Harrison pressed the button on the battery. As the flash went off, the Cowbird flushed. She had been on the nest no more than 15 seconds and had not deposited her egg. She flew a short distance into the garden and walked about there, watching, while Harrison removed the color film and replaced it with black and white. I felt sure that the Cowbird would return, since Hann (1941:220) found that Cowbirds are very persistent when they are attempting to deposit an egg.

At 4:38 A.M. I noticed a movement in the grass behind the nest, and after a few seconds the Cowbird appeared. She approached the nest warily, stepped up onto the rim, and paused there. Then she entered the nest and began to turn about as she had on her previous visit. After a few seconds, she stepped back onto the rim and looked around. She three times repeated this procedure of standing on the rim, then uneasily turning about in the nest. In one instance she mounted the rear rim and looked back into the grass. At approximately 4:40 A.M. she settled on the nest, and Harrison released the shutter. The Cowbird raised herself slightly but remained a few seconds before flying away. Upon examining the nest I found a fresh Cowbird egg. Undoubtedly the egg was being laid as the picture was taken.

The resulting black and white photograph, the third ever taken of a Cowbird on a nest, is presented with this paper (Plate 3). Hal Harrison's camera is a Zeiss Maximar, and it was loaded with Eastman Super XX film. The camera lens was exactly 24 inches from the nest, and the film was exposed for 1/100 of a second, with a stop of f. 11. The photoflash bulb used was a G. E. No. 5.

The Song Sparrow deposited her third egg sometime between 4:45 and 5:45 A.M., when I returned to the nest; her fourth egg on the morning of May 30; her fifth and last egg on May 31. On the morning of June 5, I visited the nest and found only four eggs—three belonging to the Song Sparrow, and the one Cowbird egg. The remainder of the incubation period, however, was completed without mishap, and on the morning of June 11 the Cowbird egg hatched. At 4:30 A.M. on June 12 one Song Sparrow egg had hatched, and by 10:30 A.M. on the same day a second sparrow egg hatched. The remaining sparrow egg did not hatch.

All went well with the two young sparrows and the Cowbird for the first few days. I visited the nest on the evening of June 17, and all three birds (six and seven days old) were still there and almost fully fledged, the Cowbird being about twice the size of the sparrows. But the next morning I found the nest empty, the horsehair lining lying on

the ground a few feet away. The three nestlings had apparently fallen prey to a prowling house cat during the night.

SUMMARY

The published observations of egg-laying (six instances) and of egg-removal (eight instances) by the Cowbird (*Molothrus ater*) are summarized.

A female Cowbird carried off and ate a Song Sparrow egg at 9:45 A.M. on May 28, 1944.

She returned to the nest at 4:30 the next morning to deposit her egg.

She was frightened from the nest when a photograph was taken, but returned after eight minutes and was photographed on the nest while depositing her egg.

The Song Sparrow laid three more eggs (five in all, including the one removed by the Cowbird).

Two sparrows and the Cowbird hatched and were reared successfully until the Cowbird was seven, the sparrows, six days old, when the nest was destroyed by a predator.

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